Mitigation with Offer Flexibility

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DA Market Power Mitigation Issues

- **Current:**
  - **If an owner fails TPS test, cheaper schedule (of the one cost and one price schedule for the day) selected based on the total cost of commitment**
- **Proposed:**
  - **Use effective schedules for each hour for total cost of commitment calculation (and appropriate start and no load costs)**
  - **If owner fails TPS test, unit committed on schedule with lower total cost of commitment**
  - **If unit is de-committed and committed again for a constraint, schedule should be based on TPS result and cost of commitment for the corresponding constraint**

DA Current Mitigation Example

- If an owner fails TPS test for a local transmission constraint:
- Cost of commitment on cost based schedule:
  - Start cost = $5000 per start
  - No load cost = 0;
  - Incremental offer: $15/MWh @ 50 MW
  - Minimum Run Time = 4 hours
  - Cost of commitment = 15*50*4 + 5000 = $8000
- Cost of commitment on price based schedule:
  - Start cost = $5000 per start
  - No load cost = 0;
  - Incremental offer: $18/MWh @ 50 MW
  - Minimum Run Time = 4 hours
  - Cost of commitment = 18*50*4 + 5000 = $8600
- Cost of commitment is cheaper on cost based schedule; committed on cost.

DA Mitigation with offer flexibility Scenario 1

	Hours 1-10			Hours 11-24		
Cost based offer	MW	P	Start	MW	P	Start
	50	15	5000	50	18	5500
Price based offer	MW	P		MW	P	
	50	18	5000	50	20	5500

- Fuel cost change starting Hour 11 (gas day change as an example):
  - Cost based offer increases by $3/MWh
  - Price based offer increases by $2/MWh (limited to $3/MWh increase)
  - New start cost = $5500 per start
- If commitment is from hour 9 through hour 12:
  - Start cost depends on the start hour.
  - Cost of commitment on cost offer = 15*50*2 + 18*50*2 + 5000 = $8300
  - Cost of commitment on price offer = 18*50*2 + 20*50*2 + 5000 = $8800
- Cost of commitment cheaper on cost based schedule; committed on cost.

DA Mitigation with offer flexibility Scenario 2

	Hours 1-10			Hours 11-24		
Cost based offer	MW	P	Start	MW	P	Start
	50	15	5000	50	22	5500
Price based offer	MW	P		MW	P	
	50	18	5000	50	18	5500

- Fuel cost change starting Hour 11 (gas day change as an example):
  - Cost based offer increases by $7/MWh
  - Price based offer – no change (limited to $7/MWh increase)
  - New start cost = $6300 per start
- If commitment is from hour 9 through hour 12:
  - Start cost depends on the start hour.
  - Cost of commitment on cost offer = 15*50*2 + 22*50*2 + 5000 = $8700
  - Cost of commitment on price offer = 18*50*2 + 18*50*2 + 5000 = $8600
- Cost of commitment cheaper on price based schedule; committed on price

RT Market Power Mitigation Issues

- **Current:**
  - **Resources ramped up for transmission relief, that are already committed (in DA or RT), are not offer capped when owner fails TPS test**
    - **Fixed daily offers are part of mitigation mechanism**
    - **Offer capping in RT only for units that can start quickly enough**
- **Proposed:**
  - **TPS test results should be based on effective schedules for relevant time period**
  - **All resources offered by owners that fail TPS test should be offer capped if they update offers, regardless of prior status**

RT Market Mitigation Current Example

- **Unit A and Unit B – same owner**
  - **Unit A: Committed economically DA, both price and cost offers are fixed for the operating day**
  - **Unit B: Quick start unit, not committed DA, updated offers in re-bid period, fixed for the operating day**
- **In real time, IT SCED results show binding constraint with relief needed 1 hour ahead, owner fails TPS test**
  - **Unit A is ramped up to relieve constraint, no change to schedule**
  - **Unit B is committed on cheaper of cost or price to relieve constraint**

	Current State	Current MW	Additional Available MW	IT SCED TPS Result	Mitigation
Unit A - slow ramp	On	50	20	Fail	No schedule switch
Unit B - quick start	Off	0	25	Fail	Cheaper of cost or price

RT Market Offer Flexibility Mitigation Example 1

- **Unit A and Unit B – same owner**
  - **Unit A: Committed economically DA, both price and cost offers are fixed for the operating day**
  - **Unit B: Quick start unit, not committed DA, both price and cost offers are updated real time based on fuel costs**
- **In real time, IT SCED results show binding constraint with relief needed 1 hour ahead, owner fails TPS test**
  - **Unit A is ramped up to relieve constraint, no change to schedule**
  - **Unit B is committed on cheaper of cost or price to relieve constraint**

	Current State	Current MW	Additional Available MW	IT SCED TPS Result	Mitigation
Unit A - slow ramp	On	50	20	Fail	No schedule switch
Unit B - quick start	Off	0	25	Fail	Cheaper of cost or price

RT Market Offer Flexibility Mitigation Example 2

- **Unit A and Unit B – same owner**
  - **Unit A: Committed economically DA, price and cost offers reflect different fuel costs during the day**
  - **Unit B: Quick start unit, not committed DA, both price and cost offers are updated real time based on fuel costs**
- **In real time, IT SCED results show binding constraint with relief needed 1 hour ahead, owner fails TPS test**
  - **Unit A is ramped up to relieve constraint, mitigated to cheaper of cost and price**
  - **Unit B is committed on cheaper of cost or price to relieve constraint**

	Current State	Current MW	Additional Available MW	IT SCED TPS Result	Mitigation
Unit A - slow ramp	On	50	20	Fail	Cheaper of cost or price
Unit B - quick start	Off	0	25	Fail	Cheaper of cost or price

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